A: Compliance Forms

CERTIFICATE OF COMPLIANCE (Part 1 of 2) ENV-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-ENVELOPE	TELEPHONE	Building Permit #
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA	CLIMATE ZONE

BUILDING TYPE	☐ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL		☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION	☐ ALTERATION	☐ UNCONDITIONED (file affidavit)
METHOD OF ENVELOPE COMPLIANCE	☐ COMPONENT	☐ OVERALL ENVELOPE		☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building envelope requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Envelope Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the envelope requirements contained in sections 110, 116 through 118, and 140, 142, 143 or 149 of Title 24, Part 6.

Please check one:

☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL ENVELOPE DESIGNER-NAME	SIGNATURE	DATE	LIC. #

ENVELOPE MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures _____

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.

ENV-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.

ENV-2: Used for all submittals; choose appropriate version depending on method of envelope compliance.

ENV-3: Optional. Use if default U-values are not used. Choose appropriate version for assembly U-value to be calculated.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) ENV-1

PROJECT NAME	DATE

OPAQUE SURFACES

Surface Type	Construction Type (e.g., Block, Wood, Metal)	Area	U-Value	Azimuth	Tilt	Solar Gains Y/N	Form 3 Reference	Location/Comments (e.g., Suspended Ceiling, Demising, etc.)	NOTES TO FIELD - For Building Dept. Use Only
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			
						☐ ☐			

FENESTRATION SURFACES

Fenestration Type	Area	U-Value	Azimuth	SHGC	Glazing Type	Location / Comments	NOTES TO FIELD - For Bldg. Dept. Use Only

EXTERIOR SHADING

Fenestration #	Exterior Shade Type	SHGC	Window		Overhang				Left Fin			Right Fin		
			Height	Width	Length	Height	LExt.	RExt.	Dist.	Length	Height	Dist.	Length	Height

NOTES TO FIELD - For Building Department Use Only

ENVELOPE COMPONENT METHOD ENV-2

PROJECT NAME	DATE

WINDOW AREA CALCULATION SKYLIGHT AREA CALCULATION

GROSS WALL AREA (GWA)		DISPLAY PERI-METER (DP)	
GWA x 0.40		DP x 6	

GREATER OF

If the PROPOSED WINDOW AREA is greater than the MAXIMUM ALLOWABLE WINDOW AREA, go to another method.

[ ] MAX. ALLOWABLE WINDOW AREA

[ ] PROPOSED WINDOW AREA

ATRIUM HEIGHT [ ] FT

IF ≤ 55 FT IF > 55 FT

0.10 X [ ] = [ ]

0.05 X [ ] = [ ]

GROSS ROOF AREA ALLOWED AREA

If the ACTUAL SKYLIGHT AREA is greater than the ALLOWED SKYLIGHT AREA, go to another method.

[ ] ACTUAL SKY. AREA

OPAQUE SURFACES

ASSEMBLY NAME (eg. Wall-1, Floor-1)	TYPE (eg. Roof, Wall, Floor)	HEAT CAPACITY	INSULATION R-VALUE*		ASSEMBLY U-VALUE*			
			PROPOSED	MINIMUM ALLOWED	PROPOSED	TABLE VALUES? Y	TABLE VALUES? N	MAXIMUM ALLOWED
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	
						☐	☐	

* For each assembly type, meet the minimum insulation R-value or the maximum assembly U-value.

WINDOWS

WINDOW NAME (e.g., Window-1, Window-2)	ORIENTATION N	E	S	W	U-VALUE PROP.	ALLOW.	# OF PANES	PROPOSED RSHG SHGC	H	V	H/V	OHF	PROP. RSHG	ALLOWED RSHG
	☐	☐	☐	☐										
	☐	☐	☐	☐										
	☐	☐	☐	☐										
	☐	☐	☐	☐										

SKYLIGHTS

SKYLIGHT NAME (e.g., Sky-1, Sky-2)	GLAZING TRANSLUCENT	TRANSPARENT	# OF PANES	U-VALUE PROPOSED	ALLOWED	SOLAR HEAT GAIN COEFFICIENT PROPOSED	ALLOWED
	☐	☐					
	☐	☐					
	☐	☐					
	☐	☐					

OVERALL ENVELOPE METHOD (Part 1 of 5) ENV-2

PROJECT NAME	DATE

WINDOW AREA TEST

A. DISPLAY PERIMETER		FT × 6 =		SF DISPLAY AREA
B. GROSS EXTERIOR WALL AREA		SF × 0.40 =		SF 40% AREA
C. GROSS EXTERIOR WALL AREA		SF × 0.10 =		SF MINIMUM STANDARD AREA
D. ENTER LARGER OF A OR B				SF MAXIMUM STANDARD AREA
E. ENTER PROPOSED WINDOW AREA				SF PROPOSED AREA

IF E IS GREATER THAN D OR LESS THAN C, PROCEED TO THE NEXT CALCULATION FOR WINDOW AREA ADJUSTMENT. IF NOT, GO TO PART 2 OF 5.

1. IF E IS GREATER THAN D:

MAXIMUM STANDARD AREA		PROPOSED WINDOW AREA		WINDOW ADJUSTMENT FACTOR
	÷		=	

GO TO PART 5 TO CALCULATE ADJUSTED AREA

2. IF LESS THAN C:

MAXIMUM STANDARD AREA		PROPOSED WINDOW AREA (IF E = 0 ENTER 1)		WINDOW ADJUSTMENT FACTOR
	÷		=	

GO TO PART 5 TO CALCULATE ADJUSTED AREA

SKYLIGHT AREA TEST

ATRIUM HEIGHT _____ FT

OR

IF ≤ 55 FT **IF > 55 FT**

0.10	x		=	
0.05	x		=	
STANDARD %		GROSS ROOF AREA		**STANDARD SKYLIGHT AREA**

PROPOSED SKYLIGHT AREA

IF THE PROPOSED SKYLIGHT AREA IS GREATER THAN THE STANDARD SKYLIGHT AREA, PROCEED TO THE NEXT CALCULATION FOR THE SKYLIGHT AREA ADJUSTMENT. IF NOT, GO TO PART 2 OF 5.

1. IF PROPOSED SKYLIGHT AREA ≥ STANDARD SKYLIGHT AREA:

STANDARD SKYLIGHT AREA		PROPOSED SKYLIGHT AREA (IF E = 0 ENTER 1)		SKYLIGHT ADJUSTMENT FACTOR
	÷		=	

GO TO PART 5 TO CALCULATE ADJUSTED AREAS

OVERALL ENVELOPE METHOD (Part 2 of 5) ENV-2

PROJECT NAME | DATE

OVERALL HEAT LOSS

	A	B	C	D		E	F	G	H
		PROPOSED					STANDARD		
	ASSEMBLY NAME (e.g. Wall-1, Floor-1)	AREA	HEAT CAPACITY	U-VALUE	TABLE VALUES? Y	TABLE VALUES? N	UA (B × D)	AREA* (Adjusted)	U-VALUE	UA (F × G)
WALLS					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
ROOFS/CEILINGS					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
FLOORS/SOFFITS					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
					☐	☐				
WINDOWS	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
SKYLIGHTS	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
	# OF PANES		N/A		☐	☐				
							TOTAL			TOTAL

* If Window and/or Skylight Area Adjustment is Required, use adjusted areas from part 5 of 5.

Column E shall be no greater than column H

OVERALL ENVELOPE METHOD (Part 3 of 5) ENV-2

PROJECT NAME | DATE

OVERALL HEAT GAIN FROM CONDUCTION

	A			B	C	D	E		F	G	H	I	J
				PROPOSED						STANDARD			
	ASSEMBLY NAME (e.g. Wall-1, Floor-1)			AREA	TEMP. FACTOR	HEAT CAPACITY	U-VALUE	TABLE VALUES? Y	TABLE VALUES? N	HEAT GAIN (B ×C ×E)	AREA* (Adjusted)	U-VALUE	TEMP. FACTOR	HEAT GAIN (G ×H ×I)
WALLS								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
ROOFS/CEILINGS								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
FLOORS/SOFFITS								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
								☐	☐					
WINDOWS		# OF PANES				N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
SKYLIGHTS		# OF PANES				N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					
						N/A		☐	☐					

* If Window and/or Skylight Area Adjustment is Required, use adjusted areas from part 5 of 5.

SUBTOTAL

SUBTOTAL

OVERALL ENVELOPE METHOD (Part 4 of 5) ENV-2

PROJECT NAME | DATE

OVERALL HEAT GAIN FROM RADIATION

	A	B	PROPOSED C	D	E	F	G	H	I	STANDARD J	K	L	M
	WINDOW/SKYLIGHT NAME (e.g Window-1, Sky-1)	WEIGHTING FACTOR	AREA	SOLAR FACTOR	SHGC	OVERHANG H	V	H/V	OHF	HEAT GAIN (BxCx DxExH)	AREA (Adjusted)*	RSHG or SHGC**	SOLAR FACTOR	HEAT GAIN (B×J×K×L)
NORTH														
EAST														
SOUTH														
WEST														
SKYLIGHTS						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
						N/A	N/A	N/A	N/A					
									Part 4 Subtotal					Part 4 Subtotal
									Part 3 Subtotal					Part 3 Subtotal
									TOTAL					TOTAL

* If Window and/or Skylight Area Adjustment is Required, use adjusted areas from part 5 of 5.

** Only SHGC is used for Skylights

Column **I** must be less than column **M**

OVERALL ENVELOPE METHOD (Part 5 of 5) ENV-2

PROJECT NAME	DATE

WINDOW AREA ADJUSTMENT CALCULATIONS

☐ CHECK IF NOT APPLICABLE (see Part 1 of 5)

A					B	C	D	E	F	G
WALL NAME (e.g. Wall-1, Wall-2)	ORIENTATION				GROSS AREA	DOOR AREA	WINDOW AREA	WINDOW ADJUSTMENT FACTOR (From Part 1)	ADJUSTED WINDOW AREA (D×E)	ADJUSTED WALL AREA B-(F+C)
	N	E	S	W						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
	☐	☐	☐	☐						
TOTALS:										

SKYLIGHT AREA ADJUSTMENT CALCULATIONS

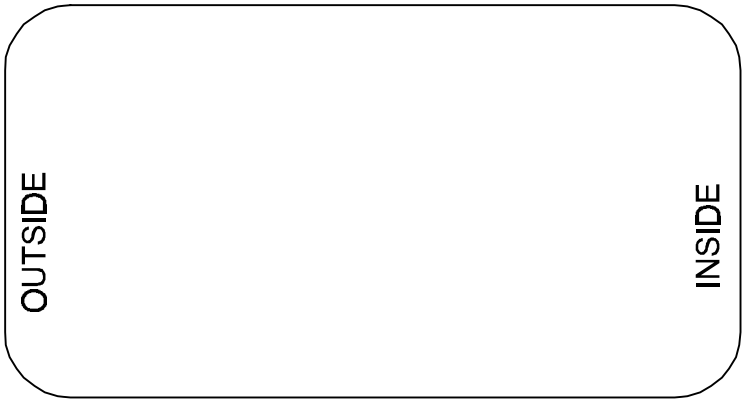
☐ CHECK IF NOT APPLICABLE (see Part 1 of 5)

A	B	C	D	E	F
ROOF NAME (e.g. Roof-1, Roof-2)	GROSS AREA	SKYLIGHT AREA	SKYLIGHT ADJUSTMENT FACTOR (From Part 1)	ADJUSTED SKYLIGHT AREA (C×D)	ADJUSTED ROOF AREA (B - E)
TOTALS:					

PROPOSED MASONRY WALL ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME	
DESCRIPTION OF ASSEMBLY	

WALL R-VALUE and HEAT CAPACITY

WALL UNIT THICKNESS		NOMINAL INCHES
MATERIAL TYPE		(LW CMU,MW CMU, NW CMU, CLAY UNIT, CLAY BRICK, CONCRETE.)
CORE TREATMENT		(SOLID, GROUTED, EMPTY, INSULATED, NA)
WALL R-VALUE		Rw (FROM TABLE B-4 or B-5)
WALL HEAT CAPACITY		HC (FROM TABLE B-4 or B-5)

FURRING/INSULATION LAYER (INSIDE and/or OUTSIDE IF ANY)

FURRING FRAMING MATERIAL		(WOOD, METAL, NONE)		
FURRING FRAMING SIZE		NOMINAL INCHES		ACTUAL INCHES
FURRING SPACE INSULATION		TYPE		R-VALUE
EXTERIOR INSULATING AREA		TYPE		R-VALUE

FURRING ASSEMBLY EFFECTIVE R-VALUE		**EXTERIOR INSULATING LAYER R-VALUE**		**INSULATION LAYER R-VALUE**
	+		=	Rf
(FROM TABLE B-7)		(FROM MANUFACTURER)		

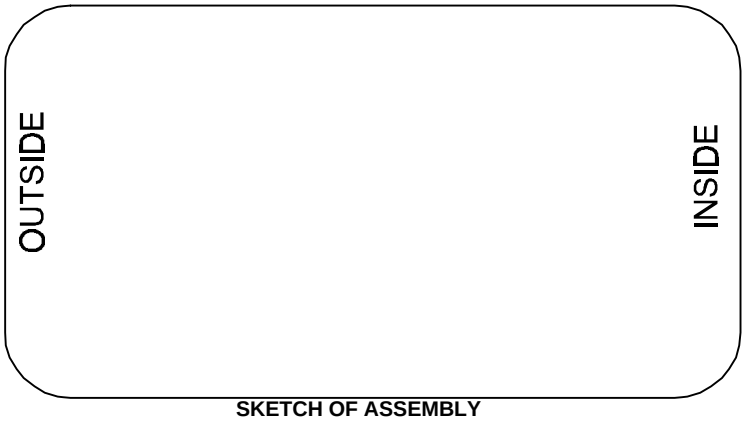
WALL ASSEMBLY R-VALUE and U-VALUE

INSULATION LAYER R-VALUE		**WALL R-VALUE**		**WALL ASSEMBLY R-VALUE**		**WALL ASSEMBLY U-VALUE**
	+		=		→	
Rf		**Rw**		**Rt**		**1/Rt**

PROPOSED METAL FRAMED ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME

ASSEMBLY TYPE ☐ Floor ☐ Wall ☐ Ceiling/Roof

FRAMING MATERIAL

FRAMING SIZE

FRAMING SPACING 16" o. c.☐ 24" o. c.☐

INSULATION R-VALUE

CONSTRUCTION COMPONENTS

	DESCRIPTION	CAVITY R-VALUE (Rc)
	OUTSIDE SURFACE AIR FILM	
1		
2		
3		
4		
5		
6		
7		
	INSIDE SURFACE AIR FILM	

SUBTOTAL		Rt
METAL FRAMING FACTOR		MFF
Rt × MFF		R-VALUE
INSULATING SHEATHING		R-VALUE
TOTAL R-VALUE		Rt
1/Rt		ASSEMBLY U-VALUE

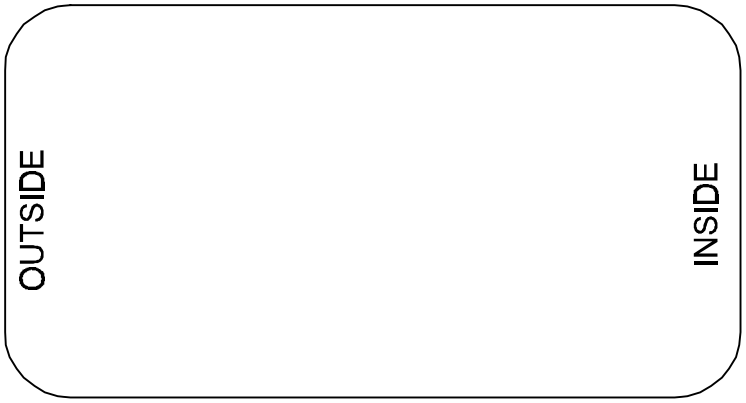
METAL FRAMING FACTOR			
Stud Spacing	**Stud Depth**	**Insulation R-Value**	**Non-Mass Wall**
16 o. c.	4"	R-7	0.522
		R-11	0.403
		R-13	0.362
		R-15	0.328
	6"	R-19	0.325
		R-21	0.300
		R-22	0.287
		R-25	0.263
24 o. c.	4"	R-7	0.577
		R-11	0.458
		R-13	0.415
		R-15	0.379
	6"	R-19	0.375
		R-21	0.348
		R-22	0.335
		R-25	0.308

COMMENTS

PROPOSED WOOD FRAME ASSEMBLY ENV-3

PROJECT NAME	DATE

COMPONENT DESCRIPTION



SKETCH OF ASSEMBLY

ASSEMBLY NAME _____

ASSEMBLY TYPE (check one)
- ☐ **Floor**
- ☐ **Wall**
- ☐ **Ceiling/Roof**

FRAMING MATERIAL ☐

FRAMING SIZE ☐ Fr %: _____

FRAMING PERCENTAGE ☐
15% (16" o. c. Wall
12% (24" o. c. Wall)
10% (16" o. c. Floor/Ceil.)
7% (24" o. c. Floor/Ceil.)

CONSTRUCTION COMPONENTS

	DESCRIPTION	R-VALUE: CAVITY R-VALUE (Rc)	R-VALUE: WOOD FRAME R-VALUE	A: WALL WEIGHT lbs/sf	B: SPECIFIC HEAT (Btu/F°•lbs)	HC (A×B) (Btu/F°•sf)
	OUTSIDE SURFACE AIR FILM					
1						
2						
3						
4						
5						
6						
7						
	INSIDE SURFACE AIR FILM					
	SUBTOTAL				**TOTAL HC**	
		Rc	Rf			

[☐ **1/Rc**] **X** [☐ **1 - (Fr%/100)**] **+** [☐ **1/Rf**] **X** [☐ **Fr%/100**] **=** ☐ **ASSEMBLY U-VALUE**

COMMENTS

CERTIFICATE OF COMPLIANCE (Part 1 of 2) LTG-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-LIGHTING	TELEPHONE	Building Permit #
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA	CLIMATE ZONE

BUILDING TYPE ☐ NONRESIDENTIAL ☐ HIGH RISE RESIDENTIAL ☐ HOTEL/MOTEL GUEST ROOM

PHASE OF CONSTRUCTION ☐ NEW CONSTRUCTION ☐ ADDITION ☐ ALTERATION ☐ UNCONDITIONED (file affidavit)

METHOD OF LIGHTING COMPLIANCE ☐ COMPLETE BLDG. ☐ AREA CATEGORY ☐ TAILORED ☐ PERFORMANCE

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building lighting requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Lighting Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the envelope requirements contained in the applicable parts of Sections 110, 119,130 through 132, 146, and 149 of Title 24, Part 6.

Please check one:

☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer or electrical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537,5538 and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL LIGHTING DESIGNER-NAME	SIGNATURE	DATE	LIC. #

LIGHTING MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measure _____

INSTRUCTIONS TO APPLICANT

For detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
LTG-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
LTG-2: Required for all submittals.
LTG-3: Optional. Use only if lighting control credits are taken.
LTG-4: Optional. Use only if Tailored Method is used. Parts 2 and 3 used only if applicable.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) LTG-1

PROJECT NAME	DATE

INSTALLED LIGHTING SCHEDULE

Code	LUMINAIRE DESCRIPTION	LAMPS Type DESCRIPTION	LAMPS #	LAMPS Watts Per Lamp	BALLASTS Type DESCRIPTION	BALLASTS #	Luminaire (Lamp + Ballast) #	Luminaire (Lamp + Ballast) Watts	TOTAL WATTS

SUBTOTAL FROM THIS PAGE	
BUILDING TOTAL	
LESS CONTROL CREDIT WATTS (From LTG-3)	
ADJUSTED ACTUAL WATTS	

MANDATORY AUTOMATIC CONTROLS

CONTROL LOCATION (Room #)	CONTROL IDENTIFICATION	CONTROL TYPE (Auto Time Switch, Exterior, etc.)	SPACE CONTROLED	NOTE TO FIELD

CONTROLS FOR CREDIT

CONTROL LOCATION (Room # or Dwg. #)	CONTROL IDENTIFICATION	CONTROL TYPE (Occupant, Daylight, Dimming, etc.)	LUMINAIRES CONTROLLED TYPE	LUMINAIRES CONTROLLED # OF LUMINAIRES	NOTE TO FIELD

NOTES TO FIELD - For Building Department Use Only

LIGHTING COMPLIANCE SUMMARY LTG-2

PROJECT NAME	DATE

ACTUAL LIGHTING POWER

LUMINAIRE NAME	DESCRIPTION	NUMBER OF LUMINAIRES	WATTS PER LUMINAIRE (Including Ballast)	CEC DEFAULT? Y	CEC DEFAULT? N	TOTAL WATTS
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	

SUBTOTAL FROM THIS PAGE	
PLUS SUBTOTAL FROM CONTINUATION PAGE	
LESS CONTROL CREDIT WATTS (From LTG-3)	
ADJUSTED ACTUAL WATTS	

If not using the CEC Default value, please provide supporting documentation.

ALLOWED LIGHTING POWER (Choose One Method)

COMPLETE BUILDING METHOD

BUILDING CATEGORY (From § 146(b) Table 1-M)	WATTS PER SF	COMPLETE BLDG. AREA	ALLOWED WATTS

AREA CATEGORY METHOD

AREA CATEGORY (From § 146(b) Table 1-N)	WATTS PER SF	AREA (SF)	ALLOWED WATTS
TOTALS		AREA	WATTS

TAILORED METHOD

TOTAL ALLOWED WATTS (From LTG-4. or from Computer Run)	

LIGHTING CONTROLS CREDIT WORKSHEET LTG-3

PROJECT NAME	DATE

WORKSHEET

A	B	C	D	E	F	G	H	I
				DAYLIGHTING				
ROOM # ZONE ID	LIGHTING CONTROL DESCRIPTION	PLANS REF.	ROOM AREA (SF)	ROOM RATIO*	GLAZING VLT	WATTS OF CONTROL LIGHTING	LIGHTING ADJUSTMENT FACTOR	CONTROL CREDIT WATTS (G X H)

PAGE TOTAL → ______

BUILDING TOTAL → ______

Enter on LTG-2: Actual lighting Power calculation

*For windows, use the Window Wall Ratio for the room. For skylights, use the Skylight-to Roof ratio for the room.

TAILORED LPD SUMMARY and WORKSHEET (Part 1 of 3) LTG-4

PROJECT NAME	DATE

TAILORED LPD SUMMARY

1. Watts for Illuminance Categories A-D (from column G below) → _____ WATTS

2. Watts for Illuminance Categories E-I (from LTG-4 Part 2) → _____ WATTS

3. Watts for Display Lighting (from LTG-4 Parts 2 & 3)

_____	+	_____	+	_____	=	_____ WATTS
Public Area Display		Sales Feature Floor Display		Sales Feature Wall Display		

4. Total Allowed Watts (lines 1+2+3) → _____ WATTS

TAILORED LPD - Illuminance Categories A, B, C and D and Gross Sales Floor Area

A	B	C	D	E	F	G
ROOM NUMBER	TASK/ACTIVITY	ILLUMINANCE CATEGORY	ROOM CAVITY RATIO	FLOOR AREA	ALLOWED LPD	ALLOWED WATTS (E X F)
			PAGE TOTAL →			
			BUILDING TOTAL →			
				SF		WATTS

TAILORED LPD SUMMARY and WORKSHEET (Part 2 of 3) LTG-4

PROJECT NAME	DATE

TAILORED LPD - Illuminance Categories E, F, G, H, I and Gross Sales Wall Area

A	B	C	D	E	F	G	H	I	J	K	L
				ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	Illum. Cat.	RCR (If E)	Notes*	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (E X F)	LUMIN. CODE	QTY.	WATTS/ LUMIN.	DESIGN WATTS (I X J)	**ALLOWED WATTS** (Min. G or K)

PAGE TOTAL →

BUILDING TOTAL →

* Enter Mounting Height or Throw Distance if applicable.

TAILORED LPD - Public Area Displays

A	B	C	D	E	F	G	H	I	J	K
			ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	THROW DISTANCE	MOUNT. HEIGHT	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (E X F)	LUMIN. CODE	QTY.	WATTS/ LUMIN.	DESIGN WATTS (H X I)	**ALLOWED WATTS** (Min. F or J)

TOTAL AREA PUBLIC DISPLAYS ____ SF

TOTAL ____ WATTS

PLANE OF PUBLIC DISPLAY AREA ____ X 0.1 = ____ MAXIMUM AREA PUBLIC DISPLAYS (SF)

TAILORED LPD SUMMARY and WORKSHEET (Part 3 of 3) LTG-4

PROJECT NAME	DATE

TAILORED LPD - Sales Feature Floor Displays

A	B	C	D	E	F	G	H	I	J	K
			ALLOTTED WATTS			DESIGN WATTS				
TASK / ACTIVITY	THROW DISTANCE	MOUNT. HEIGHT	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (D X E)	LUMIN. CODE	QTY.	WATTS/ LUMIN.	DESIGN WATTS (H X I)	**ALLOWED WATTS** (Min. F or J)

TOTAL AREA FLOOR DISPLAYS ____ SF TOTAL WATTS ____

GROSS SALES FLOOR AREA ____ X 0.1 = ____ MAXIMUM AREA FLOOR DISPLAYS (SF)

TAILORED LPD - Sales Feature Wall Displays

A	B	C	D	E	F	G	H	I	J
		ALLOTTED WATTS			DESIGN WATTS				
TASK ACTIVITY	THROW DISTANCE	TASK AREA (sf)	ALLOWED LPD	ALLOTTED WATTS (C X D)	LUMIN. CODE	QTY.	WATTS/ LUMIN.	DESIGN WATTS (G XH)	**ALLOWED WATTS** (Min. E or I)

TOTAL AREA WALL DISPLAYS ____ SF TOTAL WATTS ____

GROSS SALES WALL AREA ____ X 0.1 = ____ MAXIMUM AREA WALL DISPLAYS (SF)

ROOM CAVITY RATIO WORKSHEET (RCR ≥ 3.5) LTG-5

PROJECT NAME		FOR ENFORCEMENT AGENCY USE ONLY	
DOCUMENTATION AUTHOR	DATE	PLAN CHECKED BY	DATE

RECTANGULAR SPACES

A	B	C	D	E	F
Room Number	Task/Activity Description	Room Length (L)	Room Width (W)	Room Cavity Height (H)	Room Cav. Ratio 5 x H x (L+W) / (L x W)

NON-RECTANGULAR SPACES

A	B	C	D	E	F
Room Number	Task/Activity Description	Room Area (A)	Room Perimeter (P)	Room Cavity Height (H)	Room Cav. Ratio 2.5 x H x P /A

CERTIFICATE OF COMPLIANCE (Part 1 of 2) MECH-1

PROJECT NAME		DATE
PROJECT ADDRESS		
PRINCIPAL DESIGNER-MECHANICAL	TELEPHONE	Building Permit #
DOCUMENTATION AUTHOR	TELEPHONE	Checked by/Date Enforcement Agency Use

GENERAL INFORMATION

DATE OF PLANS	BUILDING CONDITIONED FLOOR AREA		
BUILDING TYPE	☐ NONRESIDENTIAL	☐ HIGH RISE RESIDENTIAL	☐ HOTEL/MOTEL GUEST ROOM
PHASE OF CONSTRUCTION	☐ NEW CONSTRUCTION	☐ ADDITION ☐ ALTERATION	☐ UNCONDITIONED (file affidavit)
METHOD OF MECHANICAL COMPLIANCE	☐ PRESCRIPTIVE	☐ PERFORMANCE	
PROOF OF ENVELOPE COMPLIANCE	☐ PREVIOUS ENVELOPE PERMIT	☐ ENVELOPE COMPLIANCE ATTACHED	

STATEMENT OF COMPLIANCE

This Certificate of Compliance lists the building features and performance specifications need to comply with Title 24, Parts 1 and 6 of the California Code of Regulations. This certificate applies only to building mechanical requirements.

The documentation preparer hereby certifies that the documentation is accurate and complete.

DOCUMENTATION AUTHOR	SIGNATURE	DATE

The Principal Mechanical Designer hereby certifies that the proposed building design represented in this set of construction documents is consistent with the other compliance forms and worksheets, with the specifications, and with any other calculations submitted with this permit application. The proposed building has been designed to meet the mechanical requirements contained in the applicable parts of Sections 110 through 115, 120 through 124, 140 through 142, 144 and 145.

Please check one:

☐ I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for it's preparation; and that I am licensed in the State of California as a civil engineer or mechanical engineer, or I am a licensed architect.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code by Section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.

☐ I affirm that I am eligible under the exemption to Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described pursuant to Business and Professions Code sections 5537, 5538, and 6737.1.

(These sections of the Business and Professions Code are printed in full in the Nonresidential Manual.)

PRINCIPAL MECHANICAL DESIGNER-NAME	SIGNATURE	DATE	LIC. #

MECHANICAL MANDATORY MEASURES

Indicate location on plans of Note Block for Mandatory Measures _____

INSTRUCTIONS TO APPLICANT

For Detailed instructions on the use of this and all Energy Efficiency Standards compliance forms, please refer to the Nonresidential Manual published by the California Energy Commission.
MECH-1: Required on plans for all submittals. Part 2 may be incorporated in schedules on plans.
MECH-2: Required for all submittals, but may be incorporated in schedules on plans.
MECH-3: Required for all submittals unless required ventilation rates and airflows are shown on plans, See 4.3.4.
MECH-4: Required for all prescriptive submittals.

CERTIFICATE OF COMPLIANCE (Part 2 of 2) MECH-1

PROJECT NAME	DATE

SYSTEM FEATURES

SYSTEM NAME	MECHANICAL SYSTEMS			NOTE TO FIELD Bldg. Dept. Use
TIME CONTROL				
SETBACK CONTROL				
ISOLATION ZONES				
HEAT PUMP THERMOSTAT?				
ELECTRIC HEAT?				
FAN CONTROL				
VAV MINIMUM POSITION CONTROL?				
SIMULTANEOUS HEAT/COOL?				
HEAT AND COOL SUPPLY RESET?				
VENTILATION				
OUTDOOR DAMPER CONTROL?				
ECONOMIZER TYPE				
DESIGN O.A. CFM (MECH-3, COLUMN H)				
HEATING EQUIPMENT TYPE				
HIGH EFFICIENCY? / IF YES ENTER EFF. #				
MAKE AND MODEL NUMBER				
COOLING EQUIPMENT TYPE				
HIGH EFFICIENCY? / IF YES ENTER EFF. #				
MAKE AND MODEL NUMBER				
PIPE INSULATION REQUIRED?				
PIPE TYPE (SUPPLY, RETURN, ETC.)				
HEATING DUCT LOCATION / R-VALUE				
COOLING DUCT LOCATION / R-VALUE				
DUCT TAPE ALLOWED?				

CODE TABLES: Enter code from table below into columns above.

HEAT PUMP THERMOSTAT?	Y: Yes N: No
ELECTRIC HEAT?	
VAV MINIMUM POSITION CONTROL?	
SIMULTANEOUS HEAT/COOL?	
HEAT AND COOL SUPPLY RESET?	
HIGH EFFICIENCY?	
DUCT TAPE ALLOWED?	
PIPE INSULATION REQUIRED?	

TIME CONTROL	SETBACK CTRL.	ISOLATION ZONES	FAN CONTROL
S: Prog. Switch O: Occupancy Sensor M: Manual Timer	H: Heating C: Cooling B: Both	Enter number of Isolation Zones	I: Inlet Vanes P: Variable Pitch V: VFD O: Other C: Curve

VENTILATION	OUTDOOR DAMPER	ECONOMIZER	DESIGN O.A. CFM
B: Air Balance C: Outside Air Cert. M: Outside Air Measure D: Demand Control N: Natural	A: Auto G: Gravity	A: Air W: Water N: Not Required	Enter Design Outdoor Air CFM. Note: This shall be no less than Column H on MECH-3.

MECHANICAL EQUIPMENT SUMMARY (Part 1 of 2) MECH-2

PROJECT NAME	DATE

CHILLER AND TOWER SUMMARY

					PUMPS					
Equipment Name	Equipment Type	Qty.	Efficiency	Tons	Total Qty.	GPM	BHP	Motor Eff.	Drive Eff.	Pump Control

DHW / BOILER SUMMARY

						Energy Factor or Recovery Efficiency	Standby Loss or Pilot	TANK INSUL. External R-Val
System Name	System Type	Distribution Type	Qty.	Rated Input	Vol. (Gals.)			

CENTRAL SYSTEM RATINGS

			HEATING			COOLING			
System Name	System Type	Qty.	Output	Aux. kW	Efficiency	Output	Sensible	Efficiency	Economizer Type

CENTRAL FAN SUMMARY

			SUPPLY FAN				RETURN FAN			
System Name	Fan Type	Motor Location	CFM	BHP	Motor Eff.	Drive Eff.	CFM	BHP	Motor Eff.	Drive Eff.

MECHANICAL EQUIPMENT SUMMARY (Part 2 of 2) MECH-2

PROJECT NAME | DATE

VAV SUMMARY

	VAV					FAN					BASEBOARD	
Zone Name	System Type	Qty.	Min. CFM Ratio	Reheat? Type	ΔT	Flow Ratio	CFM	BHP	Motor Eff.	Drive Eff.	Type	Output

EXHAUST FAN SUMMARY

EXHAUST FAN						EXHAUST FAN					
Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.	Room Name	Qty.	CFM	BHP	Motor Eff.	Drive Eff.

MECHANICAL VENTILATION MECH-3

PROJECT NAME	DATE

MECHANICAL VENTILATION

A	B	C	D	E	F	G	H	I	J	K
	AREA BASIS			OCCUPANCY BASIS						
ZONE/ SYSTEM	COND AREA (SF)	CFM PER SF	MIN. CFM (B X C)	NO. OF PEOPLE	CFM PER PERSON	MIN. CFM (E X F)	REQ'D. O.A. (MAX. OF D OR G)	DESIGN OUTDOOR AIR CFM	VAV MIN. CFM	TRANSFER AIR CFM
Totals (For MECH-4)										

C	Minimum ventilation rate per Section § 121, Table 1-F.
E	Based on expected number of occupants or at least 50% of Chapter 10 1997 UBC occupant density
I	Must be greater than or equal to H, or use Transfer Air. Design outdoor air includes ventilation from supply air system & exhaust fans which Operate at design conditions.
K	Must be greater than or equal to (H - I), and, for VAV, greater than or equal to (H - J).

MECHANICAL SIZING AND FAN POWER MECH-4

PROJECT NAME	DATE
SYSTEM NAME	FLOOR AREA

NOTE: Provide one copy of this form for each mechanical system when using the Prescriptive Approach.

SIZING and EQUIPMENT SELECTION

1. DESIGN CONDITIONS:

		COOLING	HEATING
- OUTDOOR, DRY BULB TEMPERATURE	(APPENDIX C)		
- OUTDOOR, WET BULB TEMPERATURE	(APPENDIX C)		
- INDOOR, DRY BULB TEMPERATURE	(See Chap. 8, ASHRAE handbook, 1993)		

2. SIZING

			COOLING	HEATING
- DESIGN OUTDOOR AIR		CFM (MECH 3; COLUMN I)		
- ENVELOPE LOAD		Btu/Hr (ENV-2 Part 2 of 5 Column E)		
- LIGHTING		W / SF (Adjusted Actual Watts-LTG-2)		
- PEOPLE		# OF PEOPLE (MECH 3; COLUMN E)		
- MISCELLANEOUS EQUIPMENT		WATTS / SF		
- OTHER				
1) _____				
2) _____				
3) _____				
TOTALS				
OTHER LOADS/SAFETY FACTOR (1.21 for cooling, 1.43 for heating)				
MAXIMUM ADJUSTED LOAD (TOTALS FROM ABOVE x OTHER LOAD SAFETY FACTOR)				

3. SELECTION:

	COOLING	HEATING
INSTALLED EQUIPMENT CAPACITY		
	KBtu / Hr	KBtu / Hr

IF INSTALLED CAPACITY EXCEEDS MAXIMUM ADJUSTED LOAD, EXPLAIN _____

FAN POWER CONSUMPTION

A	B	C	D	E	F	G
FAN DESCRIPTION	**DESIGN BRAKE HP**	**EFFICIENCY** MOTOR	**EFFICIENCY** DRIVE	**NUMBER OF FANS**	**PEAK WATTS** B x E x 746 / (C x D)	**CFM** (Supply Fans)
	TOTALS					

NOTE: Include only fan systems exceeding 25 HP (see § 144). Total Fan System Power Demand may not exceed 0.8 Watts/CFM for constant volume systems or 1.25 Watts/CFM for VAV systems.

TOTAL FAN SYSTEM POWER DEMAND WATTS / CFM _____ Col. F / Col. G